NATURAL HERITAGE CONSERVATION PROGRAM 2015 ANNUAL REPORT

Conserving Wisconsins Natural Heritage Together

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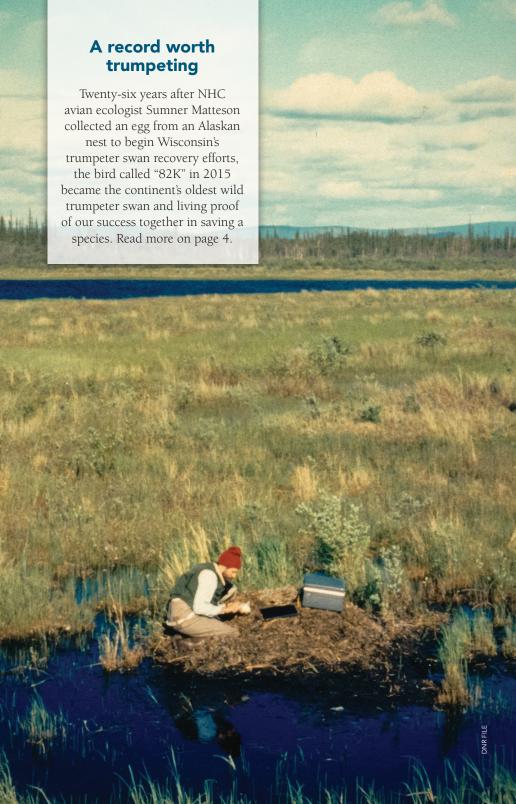
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Osprey looking down from its nest. Photo by Steve Davis



Our mission together

Dear Wisconsin conservationist:

A regal old swan, an ancient bat hibernating in a Pepin County mine, and a new license plate celebrating the recovery of bald eagles lifted our spirits in 2015 and testified to the value of our work with you to sustain Wisconsin's wild things and wild places.

We share these and other stories, as well as a sampling of our accomplishments together, in this report. We also invite you to join our community of caretakers. Tens of thousands of Wisconsinites already have. They partner with DNR's Natural Heritage Conservation staff by keeping tabs on Wisconsin wildlife, donating online or via the tax checkoff, displaying an Endangered Resources license plate, or managing their land to benefit Wisconsin's wildlife and natural communities.

We are grateful for your help in tackling such an important job. Wisconsin's location at the biological crossroads of eastern hardwood forests, western prairies and northern evergreen forests means we're blessed with a rich diversity of nature, including more than 400 bird species that nest or stop over in Wisconsin, 70 mammals, 56 reptiles and amphibians, and more than 100 distinct natural communities. Our responsibility together is to preserve this immense natural heritage for future generations.

We're privileged to work with you to help care for our common home and treasures. With your continued support, we can do even more great work together in the coming year.

Sincerely,

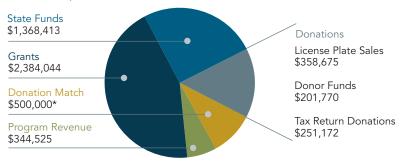
Your friends at Wisconsin's Natural Heritage Conservation Program



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Natural Heritage Conservation Program staff.

Natural Heritage Conservation Program (FY 2015 Revenue)





Trumpeter swan sails into record books, symbolizes restoration success

A regal old swan spied in Burnett County in August 2015 symbolizes NHC's remarkable success in restoring a once-endangered species to Wisconsin's skies and waters. The 26-year-old bird, known as 82K, has been confirmed as the oldest living trumpeter swan in North America. She hatched from an egg collected in Alaska in the first year of NHC's swan recovery program, was reared in captivity and released to the wild where she successfully raised several broods of her own at Crex Meadows State Wildlife Area. Trumpeter swans were removed from the state endangered species list in 2009 and today, there are 4,700 trumpeter swans in Wisconsin, including one resilient, history-making bird.

Nest repairs boost turtles

With more than one-third of Wisconsin's turtle species considered rare or declining, NHC staff turned their attention to creating, improving and protecting turtle nesting areas statewide. One of the many successes was in Washburn County. Staff worked with the landowner to add extra sand and install an electric fence to prevent predators primarily from eating the turtle eggs. The work paid off: state-

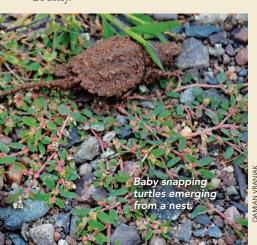
threatened wood turtles, snapping turtles, spiny softshell turtles and painted turtles nested at the site.





Kirtland's warbler recovery expands

Good news alighted early and kept coming for Wisconsin efforts to restore the federally endangered Kirtland's warbler. First, a young Kirtland's warbler banded by biologists in Wisconsin in 2014 turned up in the Bahamas. The bird beat the odds to complete the 1,200-mile journey to its wintering grounds there and researchers did as well to sight the bird. The Bahamas bird didn't return to Wisconsin in the summer, but a sibling did and produced three chicks that were banded as nestlings. Other good news: Wisconsin recorded its highest fledging success, the lowest predation and cowbird parasitism rates recorded in the state, and located a new breeding site in Adams County.





Osprey and bald eagle surveys keep populations flying high

Aerial surveys of bald eagle and osprey nests monitored the raptors' populations for the 42nd year and provided information that can help keep them flying high. The surveys, conducted by NHC and wildlife biologists and DNR pilots, are among the longest-running North American surveys of their kind and an important tool in the birds' successful comebacks. Surveyors found a record 542 occupied osprey nests in 57 of the 72 counties surveyed, and 1,279 occupied eagle nests in 66 of the 69 counties surveyed. The information enables biologists to provide accurate and timely recommendations to public and private landowners to better avoid disturbing nests.





White-nose syndrome spreads

NHC conservation biologists checked more than 75 sites for white-nose syndrome, a deadly bat disease that has killed nearly 6 million bats in eastern North America and was detected in Wisconsin in 2014. As expected, whitenose syndrome has spread quickly; it was found in 13 other sites in seven counties. As well, the number of little brown bats at the initial point of infection in Grant County has dropped 70 percent from estimates done before the disease was detected. Surveillance in 2016 will continue to assess the disease's spread and impact, including whether white-nose syndrome affects Wisconsin's four cave bat species

differently. Meanwhile, NHC staff assists research partners with small-scale field trials of treatments that have shown promise in the lab at reducing the impacts of white-nose syndrome on individual bats.

In 2015, NHC staff coordinated, trained and equipped volunteers and organizations to help collect information on bat roost locations and populations. More than 400 volunteers completed acoustic surveys and more than 100 volunteers counted bats emerging from roosting sites.



Bat finds fountain of youth

Natural Heritage Conservation staff discovered one of the oldest little brown bats ever recorded while searching hibernation sites in 2015 for signs of the deadly bat disease white-nose syndrome. The male bat was banded in 1983, making it at least 33 years old, well over the species' typical lifespan of six to 10 years. The bat's discovery testifies to its resilience and to Wisconsin's investment in banding bats to be able to trace their movements and migrations, site fidelity and longevity.

Volunteers help turtles cross the road

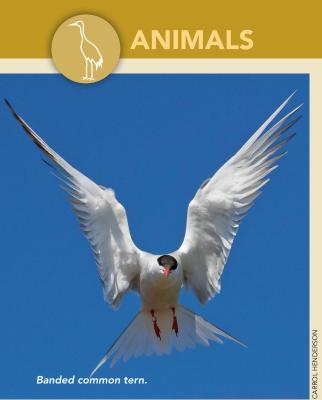
The Wisconsin Turtle Conservation Program, a citizen science program, had another successful year of volunteers contributing turtle sightings to fill in gaps in known turtle ranges. Many citizens also took active turtle conservation measures of their own by protecting turtle nests, helping turtles cross dangerous roads, and putting up turtle road crossing signs and stencils to alert drivers of turtle crossings.



Many turtles are struck by vehicles when they attempt to cross the road, so it's important to do as much as we can to reduce turtle deaths.

Frog and toad totals jump

Volunteers and NHC staff completed the 32nd year of the Wisconsin Frog and Toad Survey, one of the nation's longest running surveys of its kind. Volunteers listened for frog calls at specific stops along a route; such surveys help determine trends and the status of Wisconsin's 12 species of frogs and toads. Seven of the species showed an increase in occurrence in 2014 from 2013 levels. 2015 results are still being analyzed.



"Terning" a pontoon into a bird nest

An aging pontoon boat and a wooden raft are helping common terns turn the corner. These birds are declining throughout the Great Lakes and are endangered in Wisconsin. To counter declining nesting habitat, NHC and Wildlife Management staff teamed up with the Lake Puckaway Protection and Rehabilitation District and the U.S. Fish and Wildlife Service to provide nesting structures in Lake Puckaway and Lower Green Bay, respectively. The birds came: 20 pairs nested on Lake Puckaway alone and produced 55 chicks, while the Green Bay raft produced six chicks, the first documented in over two decades.

Unlocking terns' travels

Tiny electronic tags attached to the legs of common terns by the Department of Natural Resources and partners are revealing the birds' migration routes and winter habitat so both can better be protected. Eight adult terns outfitted with the tags in 2013 near Superior have been recaptured, data downloaded, and more birds tagged in 2015. Information so far shows terns taking different routes in the fall and spring: they fly to the East Coast in fall before heading to winter habitats along the western coast

of South America. In spring, they fly north along the Gulf of Mexico and then follow the Mississippi Valley back to Lake Superior. Collaboration with other states to improve migratory stopover habitat is essential for the long-term conservation of the species.

In one year, the "Wisconsin Breeding Bird Atlas" has enlisted over 700 volunteers and confirmed 229 species breeding in Wisconsin. Help shape bird conservation over the coming generation. Find out how to get involved at wsobirds.org/atlas.



Getting a better handle on mussels

More than half of Wisconsin's 51 native mussel species are listed as species of greatest conservation need or lack information on where they currently occur. To help fill in the gaps and monitor populations, NHC staff continued to recruit and train volunteers to update existing records and send in observations of new mussel populations, especially for northern lakes, which are underrepresented in the existing Mussel Atlas. Information provided through these efforts also fed into a published update of the "Freshwater Mussels of the Upper Mississippi River" guidebook.

Seed money grows ranks of citizen scientists

The ranks of citizen scientists helping locate, identify and count bats, birds and other native species continued to grow in 2015 with help from the Wisconsin Citizen-based Monitoring Program. Seed money to 19 citizen-



NHC staff and volunteers conducting counts for Karner blue butterflies reported 2,721 of these federally endangered butterflies on 13 sites.

based NHC monitoring projects helped get volunteers outdoors to monitor invasive species, water quality, rare plants, birds, amphibians, bats and Northwoods lake temperatures. Volunteer efforts provide important information to address priority data needs.

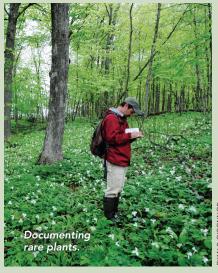




Volunteer discovers rare meadow beauty

NHC's first year of training volunteers statewide to look for rare plant species put 40 more pairs of eyes on the landscape and yielded some exciting finds. Perhaps the showiest was the discovery in a state natural area of meadow beauty, a striking plant with an equally showy backstory. More typically found along the Atlantic coast, this plant is able to survive in the lakebed of the glacial lake that covered much of central Wisconsin. A new population of this so-called "coastal plain disjunct" was reported for the first time this year and its presence added to the database that is the foundation for conserving the state's native plants.

Did you know there are over 1,800 native plant species in the state of Wisconsin?



SYAN P. O'CONNOR



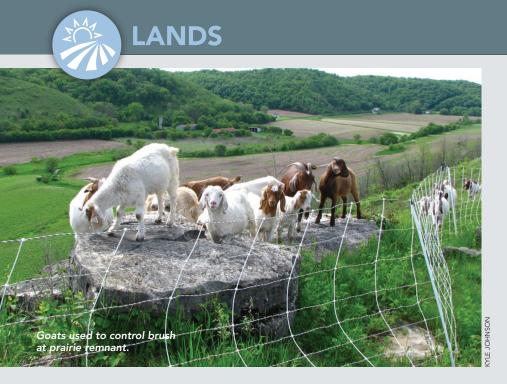
Fire frees rare flora

The discovery of the federally threatened prairie bush clover at a state natural area in Green County underscores the value of prescribed burns to manage prairie and the payoff from repeating rare plant surveys at the same site. The site where the bush clover was found is actively managed by NHC field staff and volunteers but the rare plant hadn't been reported since 2002. In spring 2015, NHC conducted a prescribed burn that was particularly hot and removed more thatch than previous burns. It's likely the prairie bush clover was "hiding" underground in the seed bank until optimal conditions for germination returned, and the fire created those conditions.

Rare plant finds blossom

Wisconsin's NHC staff and volunteers documented more than 160 rare plant populations at selected natural areas and other public sites across the state, helping build the foundation of information for conserving Wisconsin's rare species. More than 40 of those plant populations had never been documented before. Some are new because those particular plants hadn't been previously looked for at those sites. Some findings represented new populations on the landscape: the plants responded positively to work by state natural area crews to control invasive species or conduct prescribed burns.

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Grazing goats (b)eat back invasive plants

Goats go where fire can't on Hogback Prairie State Natural Area in Crawford County, benefitting the prairie and endangered butterflies. With brushy plants overtaking the prairie and prescribed fire limited to protect the Ottoe skipper and regal fritillary, NHC managers turned to goats to control the shrubs. The goats are carefully monitored and rotated through paddocks on site. Their browsing makes it easier for managers to apply herbicide and keeps grass at a good level for butterflies. In four years on the job, the goats have (b)eaten back brush on two-thirds of the site and contributed to record regal fritillary populations.

"Best of the best" wetlands benefit from survey work

An effort to use state natural area wetlands as benchmarks for assessing the health of other wetlands is paying big dividends. NHC and other biologists surveyed plants at these sites to understand what a high quality wetland looks like — information useful to manage, protect and restore other wetlands. But the surveys are benefitting these high quality wetlands as well by updating information about many sites not surveyed for 40 years, and by revealing 37 new rare plant populations. Importantly too, SNA managers have learned about pressing management needs including infestations of invasive plants that are still small enough to get rid of with timely control measures.



A helping hand for natural areas

Increasingly, state natural areas need fire or other help from human hands to sustain their iconic plant and animal communities and to beat back invasive species. State natural area field ecologists are responsible for caring for more than 140 of the 673 designated state natural areas. They greatly improved over 11,000 acres of habitat for rare, non-game and game wildlife species.

Phragmites meets its match

State natural area crews and partners treated more than 1,000 acres of an aggressive, invasive plant on eight state natural area sites and three state wildlife areas in northeastern Wisconsin. The invasive plant, phragmites, is a tall reedy grass

that grows in dense stands up to 10 feet high. It crowds out native plants and makes it difficult to get to the lakeshore. Removing the invader helped restore native plants to those areas, benefitting wildlife and increasing access to the water. The work was funded by a Great Lakes Fish and Wildlife Restoration Act grant and builds on a previous grant that controlled 3,600-plus acres of phragmites.

Volunteers recruited through the State Natural Area Volunteer Program donated more than 2,400 hours of labor on about 20 natural area sites in 2014.

Helping landowners help nature



Landowner Lottery

More than 760 Wisconsin residents controlling more than 60,000 acres of land in every county in Wisconsin entered NHC's Landowner Lottery to win a free customized report about their land. The reports, which were provided to 100 randomly selected lottery entrants, detailed the rare wildlife likely to be found on their land, and opportunities for conservation, based on the sites' locations. Eighty-eight of the landowners receiving the reports also opted to have a free site visit from an NHC conservation biologist to ask their conservation questions; all lottery entrants received a free electronic newsletter with seasonal advice on land management topics along with new information and other resources to help them meet their conservation goals.

Natural Heritage Site Program

Want to get recognized for voluntarily creating and managing wildlife habitat on your property? NHC's fledgling program to recognize households, businesses, schools, organizations and communities that do just that is now looking for pilot properties to participate in the Natural Heritage Site Program. Much work has been

done in the past year: an advisory team was formed, criteria were developed to award landowners certification as a "Natural Heritage Site" for caring for their land in ways that conserve native species, and groundwork was laid to launch a pilot project to include a representative group of private landowners, businesses, organizations and schools across the state. Now it's time to recruit participants and fine-tune the recognition program before expanding it statewide. For more information, email DNRNHHeritageSite@wisconsin.gov.

Landowner Incentive Program

Private and public landowners in the Driftless Area in 2015 continued to restore habitat for rare and declining species with technical and financial help from NHC's Landowner Incentive Program. Restoration activities such as prescribed burns and invasive species control helped restore nearly 800 acres at 23 different project sites.

Join the community

Tisconsin's wildlife and wild places belong to all of us. Thank you for all you do to safeguard them for current and future generations.

If you're not yet part of our community of caretakers, we invite you to join in.

Volunteer

To volunteer directly in some of the species programs highlighted in this report please call 608-267-2108 or send an email to DNRBureauofNatural HeritageConservation@wisconsin.gov.

The eagle has landed!

Celebrate the remarkable recovery of bald eagles in Wisconsin and help lay the foundation for the next conservation success by buying an endangered resources license plate. To learn more, go to DNR's website, dnr.wi.gov, and search for "eagle plate."



Double the difference you make

Every dollar you give to the Endangered Resources Fund directly or through the tax checkoff is matched dollar for dollar up to \$500,000. Your contribution is tax-deductible and can be directed specifically to your favorite conservation program.

- Donate online by going to dnr. wi.gov, searching "NHC" and clicking on the donate button.
- Write a check payable to the "Endangered Resources Fund" and send to:

Wisconsin DNR Bureau of Natural Heritage Conservation P.O. Box 7921 Madison, WI 53707

- Donate directly on your tax form. Look for the "donations" area on your Wisconsin income tax form.
- Donate to the Natural Resources Foundation of Wisconsin, which makes grants to NHC, works with donors to establish endowment funds for managing state natural areas, and supports research and monitoring on rare and endangered wildlife in Wisconsin. Visit wisconservation.org/.

A picture is truly worth a thousand words

We are lucky to have fantastic professional and amateur photographers willing to share their work with us; nearly 400 of you have given us permission to use your photographs. We value your contribution and your images' ability to connect Wisconsinites to nature. Here we introduce you to Steve Davis, a professional photographer based in Onalaska whose work appears on the report cover.

Q. When and why did you pick up a camera?

A. I picked up a camera when I was a sophomore in college and really enjoyed it so I switched my major to mass communications with a photography minor at the University of Wisconsin-La Crosse. From there I worked at three different newspapers as a photojournalist for 15 years. I started Aperture in September of 2012.



A. Premier high school sports, wildlife and high school seniors.

Q. Favorite animal to photograph?

A. My favorite animal to photograph is the one I am photographing that day. I get in the mindset of what I need to do and set up for each which is different. I really enjoy photographing waterfowl, turkeys, deer and eagles.

Q. Your favorite place to take photos?

A. I really enjoy any location around the La Crosse area. We have such an abundance of wildlife to photograph and enjoy. Many times, I have my camera with me on hunting trips.

To learn more about Steve Davis go to aperturebystevedavis.com.

Donate \$40 to the NHC Program and receive an exhibition quality 8-by-10-inch unframed print of one of Steve Davis' photos. To see all available photos go to dnr.wi.gov and search keyword "NHC."









If you would like to be considered for next year's featured artist, email DNRBureauofNaturalHeritageConservation@wisconsin.gov.



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